

Project Summary and Justification

Department	Public Utilities
Division	Sanitary Landfill

The Capital Improvement Program for the 2002-2008 period is a continuing effort to provide an environmentally sound and integrated solid waste management system for Lincoln and Lancaster County.

Project 1 Bluff Road Landfill. Consisting of approximately 370 acres at Highway #77 and Bluff Road. (Continuation)

The Bluff Road landfill is essential to assure proper disposal of solid wastes for the City of Lincoln and Lancaster County in a manner protective to human health and the environment and to meet Nebraska Department of Environmental Quality (NDEQ) Title 132 Operating Permit Requirements and Federal regulatory requirements. The overall project involves the continued expansion and development of the facility.

- a. **Leachate Collection and Liner Facilities. (Continuation, 569279)**
Federal and State landfill regulations require leachate collection and treatment facilities to protect against groundwater pollution. Failure to protect groundwater can result in sizable corrective action costs if leachate contamination occurs. Installation of leachate collection facilities is an on-going part of the site development and the funding identified in the program reflects this need.
- b. **Site Maintenance and Closure. (Continuation, 569139, 569140, and 569141)**
This is an on-going operation that meets the requirements for annual site maintenance and closure activities such as litter fence construction, drainage improvements, seeding, and landscaping for perimeter screening and improved site aesthetics. Funding in FY 03-04 is for additional litter fencing and drainage structures. These improvements are necessary to comply with State and Federal requirements as well as provide for aesthetic improvements necessary for operating in close proximity to the community.
- c. **Leachate Collection and Treatment Facilities. (Continuation, 569129)**
Funds provide for design and construction of additional storage capacity and pretreatment for generated leachate. Cost effective methods for managing leachate have been evaluated and a preliminary management plan has been completed. The Leachate Management Plan prepared for the Landfill was used to develop project timing and funding identified in this six-year plan.

Project Summary and Justification (cont.)

Department	Public Utilities
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d. Landfill Gas Collection and Utilization. (Continuation, 569309 and 569310)

The Department has completed an initial evaluation on the feasibility of a landfill gas to energy facility for the Bluff Road landfill. Although a landfill gas collection system is not required by regulation, the evaluation indicates that a landfill gas to energy system is cost effective. As a result, the proposed funding in the six-year program is to develop an active gas collection system that will produce gas for sale to the Lincoln Electric System as a fuel source to power electrical generators. Initially the project will develop approximately 24 acres of well field, gas transmission lines, and a flare station to power a proposed 1.0-megawatt generator. Funding shown in subsequent years will develop additional collection capacity corresponding to phased final cap construction (see project 1.e.). Other project benefits include reduced air emission contaminants from the landfill, reduced potential for odors, beneficial use of waste landfill gas, and additional green power generation by LES.

e. Final Cover Construction. (Continuation, 569340 and 569342)

Funding provides for the design and construction of a final cover system on top of the landfill as required by regulation and which is compatible with landfill gas collection for energy production (see project 1.d.).

f. Additional Groundwater Monitoring Wells and Initial Geologic Borings for Site Expansion Evaluation. (Continuation, 569169)

Funds for additional groundwater monitoring wells provide for future evaluation of groundwater conditions at the site as required by the operating permit. In addition, the suitability of other areas available for future landfill development which are not currently permitted by the NDEQ will be evaluated and allow for planning for additional landfill capacity beyond the current site life of 2025.

g. Site Re-Permitting.

This project will provide for costs associated with re-permitting the facility in 2002 to correspond with expiration of the five-year permit in September 2003.

Project 2 North 48th Street Landfill and Transfer Station Site. Approximately 450 acres. (Continuation)**a. Closure Costs for Landfill East (310 acres) and Landfill West (140 acres). (Continuation, 569399 and 569400)**

The proposed project funding is for additional cover soil, drainage improvements, and revegetation of landfill areas associated with the City's old North 48th Street Solid Waste Landfill. This area is intended to be developed as a future park area. Compost materials and bio-solids may be utilized as a soil amendment to promote vegetative growth. In addition, State regulations specify proper closure procedures to protect the completed landfill and prevent impacts to surface water, groundwater, and air quality.

Project Summary and Justification (cont.)

Department	<u>Public Utilities</u>
Division	<u>Sanitary Landfill</u>

Additional funding may be necessary for corrective actions associated with groundwater and landfill gas at this site dependent upon NDEQ's review of a previously completed groundwater assessment study.

b. Closure Costs for Construction and Demolition Site. (Continuation, 700060 and 700061)

These costs are for closure of the City's permitted Construction and Demolition Landfill.

Similar to project 2a., these funds will provide for additional cover soil, drainage improvements, and revegetation of landfill areas that are intended to be developed as a future park area. A minimum cover soil depth of two feet is required by State regulations for all areas associated with the Construction and Demolition Site.

c. Parks Development.

There is no funding identified for this project during the six-year planning period. However, this project is identified at this time for the purpose of recognizing that additional capital improvements must occur at this site prior to use as park lands. An estimate of potential cost to develop this site is shown in the "cost beyond" column.

d. Air Quality Assessment. (Continuation, 569404)

An additional air quality assessment (Tier II) may have to be made in FY 06-07 as a result of the EPA Clean Air Act requirements.

e. Expansion of Existing Transfer Station Operations. (Continuation, 701293)

The proposed funding is for expansion and improvements at the small vehicle transfer station to better serve customers. The expansion will provide better service to customers using large trailers and pickup trucks that are currently required to use the Bluff Road landfill. In addition, improvements are planned to better handle waste appliances, especially those containing refrigerants. The improvements will allow customers to off-load these items without damaging refrigerant lines and causing illegal releases of Freon. The improvements will also allow the City to perform onsite refrigerant recovery, thus reducing the potential for Freon releases during loading and transport to an offsite processor. Finally, the improvements will provide better handling of other waste metals, tires, and waste oil.

f. Groundwater and Landfill Gas Assessment. (Continuation, 569205)

The proposed funding is for additional groundwater investigation work in order to complete a Nebraska Department of Environmental Quality (NDEQ), Title 118 groundwater assessment report. The funding required to complete this assessment is a result of additional work anticipated to be requested by the NDEQ. Upon review of the city's report, the NDEQ will issue a decision on whether corrective actions and groundwater cleanup is necessary. The proposed CIP does not include costs for corrective actions.

Project Summary and Justification (cont.)

Department	<u>Public Utilities</u>
Division	<u>Sanitary Landfill</u>

Project 3 Solid Waste Management System - Volume Reduction (Phase I, Solid Waste Management Plan).

Proposed funding will provide for further evaluation of solid waste reduction alternatives, enhancements to the City's existing yard waste composting facility, evaluation and development of organic waste composting and materials recovery facility, and expansion of the City's recycling drop-off centers.

- a. Solid Waste Management Plan Update. (Continuation, 701174)**
An update of the Solid Waste Management Plan for the City of Lincoln and Lancaster County is scheduled for FY 04-05. The plan was originally completed in 1992 by the Phase I Environmental Management Plan Steering Committee and updated in 2000.
- b. Construction and Demolition (C & D) Site.**
Funding for the siting of a new construction and demolition disposal facility has been shifted to beyond the six-year planning period based on the expected site life lasting through the year 2015, or beyond. Although no funding is identified in the six-year period, this project is listed as a reminder that the community will be considering a new C & D landfill site in the relative near term for this waste stream.
- c. Organic Waste Composting/Materials Recovery Facility.**
 - 1. Feasibility Study.
 - 2. Upgrades to Existing Composting Facility. (Continuation, 569133)

The 1992 Solid Waste Management Plan identifies an organic waste composting and material recovery facility as the next major element to increase the diversion of material from the Landfill. Sub-project 1. is a feasibility study on the development of an expanded organic waste processing and material recovery facility is identified in FY 05-06. Construction of facilities is anticipated to occur beyond the current six-year planning period.

Sub-project 2. of this project provides funding for upgrades to the existing yard waste composting facility at the Bluff Road Landfill. These upgrades include improvements to storage areas for finished compost, additional site access for purchasers of compost, and potential required improvements for the management of surface water runoff.

Project Summary and Justification (cont.)

Department	Public Utilities
Division	Sanitary Landfill

d. Recycling Drop-Off Sites.

1. Existing Site Maintenance/Improvements. (Continuation, 700850)
2. Expansion of Recycling Drop-Off Program. (Continuation, 700942, 700943, 700944, and 700945)

Close to 50% of the people in Lincoln utilize the drop-off sites. Currently, there are eight (8) existing recycling sites in both north and south Lincoln. More people reside in south Lincoln than north Lincoln. The recycling drop-off sites in southeast Lincoln are the largest and receiving the greatest amounts of materials. These existing sites cannot be readily expanded to accept more material.

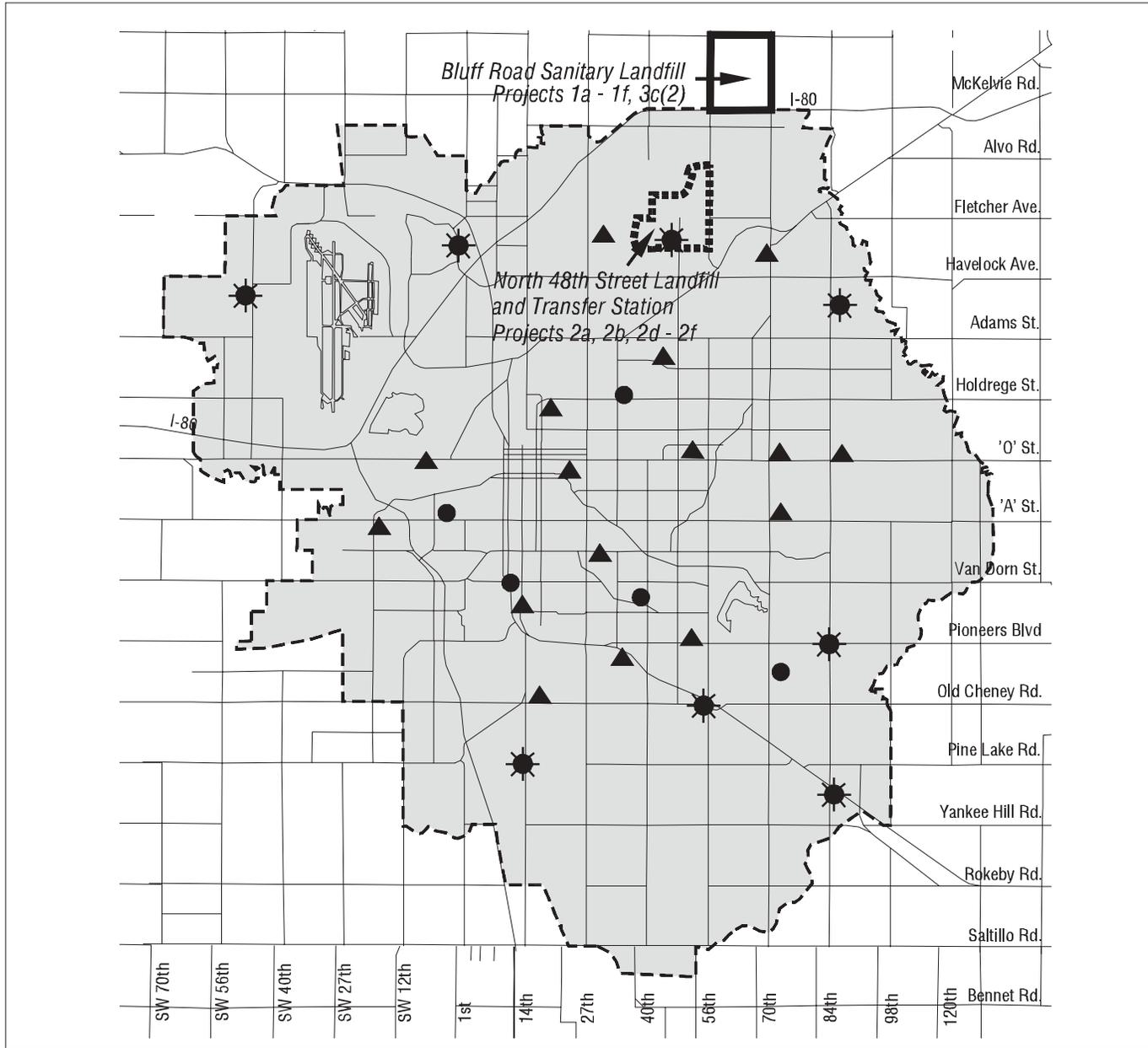
Due to size, traffic, noise, and concerns about litter and illegal dumping, the siting of additional drop-off sites has become very difficult in commercial areas. Various publicly owned properties are being investigated, but no agreements for additional sites in southeast Lincoln have been obtained.

Sub-project 1. of this project provides for repairs and improvements to existing drop-off sites and includes anticipated asphalt resurfacing, fencing, and landscaping. These improvements are critical to continue with the current use, improve appearance, and gain greater acceptance of nearby commercial and residential property owners.

Sub-project 2. of this project provides for the expansion of the recycling drop-off sites program. Funds have been added for the purchase of property in the event that a recycling site would be co-located with a government facility or to acquire land in a commercial development. Identified funding also includes the necessary site development costs associated with the recycling drop-off sites.

Lincoln CIP 2002 - 2008

Public Utilities Solid Waste Operations



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Lincoln Future Service Limit Shown as Grey

Map prepared by
City - Co. Planning Dept
GIS Section



M I L E S
0 1 2 3

Project 3d: Recycling Drop-off Sites

- ▲ Existing Multi-Material Sites
- Existing Newspaper Sites
- ☀ Potential New Multi-Material Sites

List of Projects *Department: Public Utilities / Sanitary Landfill*

Project Number	Project Title
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1. BLUFF ROAD LANDFILL. Consisting of approximately 370 acres at Highway #77 and Bluff Road. (Continuation)
 - 1a. Leachate Collection and Liner Facilities. (Continuation, 569279)
 - 1b. Site Maintenance and Closure. (Continuation, 569139, 569140, and 569141)
 - 1c. Leachate Collection and Treatment Facilities. (Continuation, 569129)
 - 1d. Landfill Gas Collection and Utilization. (Continuation, 569309 and 569310)
 - 1e. Final Cover Construction. (Continuation, 569340 and 569342)
 - 1f. Additional Groundwater Monitoring Wells and Initial Geologic Borings for Site Expansion Evaluation. (Continuation, 569169)
 - 1g. Site Re-Permitting.
 2. NORTH 48th STREET LANDFILL AND TRANSFER STATION SITE. Approximately 450 acres. (Continuation)
 - 2a. Closure Costs for Landfill East (310 acres) and Landfill West (140 acres) . (Continuation, 569399 and 569400))
 - 2b. Closure Costs for Construction and Demolition Site. (Continuation, 7000060 and 7000061)
 - 2c. Parks Development.
 - 2d. Air Quality Assessment. (Continuation, 569404)
 - 2e. Expansion of Existing Transfer Station Operations. (Continuation, 701293)
 - 2f. Groundwater and Landfill Gas Assessment. (Continuation, 569205)
 3. SOLID WASTE MANAGEMENT SYSTEM - VOLUME REDUCTION (Phase I, Solid Waste Management Plan).
 - (3a.) Solid Waste Management Plan Update. (Continuation, 701174)
 - (3b.) Construction and Demolition (C & D) Site.
 - 3c. Organic Waste Composting/Materials Recovery Facility.
 - (1.) Feasibility Study.
 2. Upgrades to Existing Composting Facility. (Continuation, 569133)
 - 3d. Recycling Drop-Off Sites.
 1. Existing Site Maintenance/Improvements. (Continuation, 700850)
 2. Expansion of Recycling Drop-Off Program. (Continuation, 700942, 700943, 700944, and 700945)

*Project number in parenthesis indicates project is not shown on the map.

2002 - 2008 CAPITAL IMPROVEMENT PROGRAM

DIVISION: SANITARY LANDFILL

(1)	(2)	(3)	5% Inflation per year (4)															
PROJ. NO.	PROJECT TITLE	PROJ. PRIO.	PROGRAMMED EXPENDITURES & FUNDING SOURCES (FS) (000's)															
			2002-2003	FS	2003-2004	FS	2004-2005	FS	2005-2006	FS	2006-2007	FS	2007-2008	FS				
1.	Bluff Road Landfill. Consisting of approximately 370 acres at Highway #77 and Bluff Road. (Continuation)																	
1.a.	Leachate Collection and Liner Facilities (Continuation 569279)	A																
	1. Phase 9 Expansion	A	2060.0	RB	240.0	RB												
	2. Phase 10 Expansion	A					123.0	LF		2327.5	LF							
	3. Phase 11 Expansion	A														1675.0	LF	
1.b.	Site Maintenance and Closure (Continuation, 569139, 140,& 141)	A			185.0	LF	170.0	LF		400.0	LF		160.0	LF			172.0	LF
1.c.	Leachate Collection and Treatment Facilities (Continuation 569129)	A					519.0	LF		1181.0	LF							
1.d.	Landfill Gas Collection and Utilization Feasibility, Evaluation, and Construction (Continuation 569309 & 310)	A																
	1. Phase 2 Cap LFG		1350.0	RB														
	2. Phase 3 Cap LFG				40.0	LF	250.0	LF										
1.e.	Final Cover Construction (Continuation 569340 & 342)	A			117.0	LF	1684.0	LF										
1.f.	Additional Groundwater Monitoring Wells and Initial Geologic Borings for Site Expansion Evaluation. (Continuation 569169)	A			75.0	LF												
1.g.	Site Re-Permitting	B	30.0	LF														

(5)	(6)	(7)		(8)	(9)	(10)	(11)						(1)
TOTAL FOR SIX YEARS (000's)	COST BEYOND 2007-2008 (000's)	PRIOR APPROPRIATIONS (000's)		TOTAL CAP COSTS (000's) (5)+(6)+(7)	COMP PLAN CONFORM	STATUS OF PLANS	COST BREAKDOWNS FOR SIX-YEAR EXPENDITURES (000's)						PROJ. NO.
		YEAR	FS				PRELIM PLANS	FINAL PLANS	LAND ACQUISITION	CONST	EQUIP / FURNISH	OTHER (EXPLAIN)	
													1.
	14,900.0	None		14,900.0	GCP								1.a.
2,300.0				2,300.0	GCP	7		115.0			2,185.0		1.a.1
2,450.5				2,450.5	GCP	7		123.0			2,327.5		1.a.2
1,675.0				1,675.0	GCP	7		84.0			1,591.0		1.a.3
1,087.0	5,207.0	819.2	99-02	7,113.2	GCP	0					1,087.0		1.b.
1,700.0	1,300.0	None		3,000.0	GCP	2	34.0	85.0			1,581.0		1.c.
	2,500.0	580.9	99-02	3,080.9	GCP								1.d.
1,350.0				1,350.0	GCP	2	40.0	68.0			1,242.0		1.d.1
290.0				290.0	GCP	2	9.0	15.0			266.0		1.d.2
1,801.0	29,050.0	1,809.2	99-02	32,660.2	GCP	7		54.0			1,747.0		1.e.
75.0	0.0	112.9	99-02	187.9	GCP	2		6.0			69.0		1.f.
30.0	375.0	None		405.0	GCP	0						30.0 (Permitting)	1.g.

2002 - 2008 CAPITAL IMPROVEMENT PROGRAM

DIVISION: SANITARY LANDFILL

(1)	(2)	(3)	5% Inflation per year (4)															
PROJ. NO.	PROJECT TITLE	PROJ. PRIO.	PROGRAMMED EXPENDITURES & FUNDING SOURCES (FS) (000's)															
			2002-2003	FS	2003-2004	FS	2004-2005	FS	2005-2006	FS	2006-2007	FS	2007-2008	FS				
2.	North 48th Street Landfill and Transfer Station Site. Approximately 450 acres. (Continuation)																	
2.a.	Closure Costs for Landfill East (310 acres) and Landfill West (140 acres) - (Cont. 569399 & 400)	A			100.0	LF			50.0	LF								
2.b.	Closure Costs for Construction and Demolition Site (Continuation 700060 & 061)	A			215.0	LF					50.0	LF			430.0	LF		
2.c.	Parks Development (See narrative of explanation for "no funding")	C																
2.d.	Air Quality Assessment (Continuation 569404)	B													25.0	LF		
2.e.	Expansion of Existing Transfer Station Operations (Continuation 701293)	B	360.0	LF														
2.f.	Groundwater and Landfill Gas Assessment (Continuation 569205)		350.0	RB														
3.	Solid Waste Management System - Volume Reduction - (Phase I, Solid Waste Management Plan)																	
3.a.	Solid Waste Management Plan Update (Continuation, 701174)	B							80.0	LF								
3.b.	Construction and Demolition (C & D) Site (See narrative of explanation for "no funding")	B																
3.c.	Organic Waste Composting/Materials Recovery Facility	B																
	1. Feasibility Study										50.0	LF						
	2. Upgrades to Existing Composting Facility (Continuation 569133)		36.0	LF					200.0	LF								
3.d.	Recycling Drop-Off Sites	A																
	1. Existing Site Maintenance/Improvements (Cont 700850)				10.0	LF			15.0	LF	15.0	LF			15.0	LF		
	2. Expansion of Recycling Drop-Off Program (Cont. 700942, 943, 944 & 945)				156.0	LF											38.0	LF
	FUNDING SOURCE BREAKDOWN:																	
	LF (Landfill Revenue)		426.0		898.0			3,091.0		4,023.5		630.0		1,885.0				
	RB (Revenue Bonds)		3,760.0		240.0			0.0		0.0		0.0		0.0				
	GR (General Revenue)		0.0		0.0			0.0		0.0		0.0		0.0				
	DIVISION TOTAL:		4,186.0		1,138.0			3,091.0		4,023.5		630.0		1,885.0				

FORM B

(5)	(6)	(7)		(8)	(9)	(10)	(11)						(1)
TOTAL FOR SIX YEARS (000's)	COST BEYOND 2007-2008 (000's)	PRIOR APPROPRIATIONS (000's)		TOTAL CAP COSTS (000's) (5)+(6)+(7)	COMP PLAN CONFORM	STATUS OF PLANS	COST BREAKDOWNS FOR SIX-YEAR EXPENDITURES (000's)						PROJ. NO.
		YEAR	FS				PRELIM PLANS	FINAL PLANS	LAND ACQUISITION	CONST	EQUIP / FURNISH	OTHER (EXPLAIN)	
													2.
150.0	800.0	2,022.1	99-02	2,972.1	GCP	7		5.0		145.0			2.a.
695.0	1,050.0	270.0	01-02	2,015.0	GCP	5		49.0		646.0			2.b.
0.0	Unknown	None		0.0	GCP	1							2.c.
25.0	50.0	20.0	99-02	95.0	GCP	0		25.0					2.d.
360.0	Unknown	30.0	99-02	390.0	GCP	5	7.0	25.0		328.0			2.e.
350.0	Unknown	651.6	99-02	1,001.6	GCP	0						350.0 Study	2.f.
													3.
80.0	100.0	20.0	99-02	200.0	GCP	0		80.0					3.a.
	5,200.0	None		5,200.0	GCP	1							3.b.
					GCP								3.c.
50.0	2,750.0	None		2,800.0	GCP	0	50.0						3.c.1
236.0	300.0	376.8	99-02	912.8	GCP	2		19.0		217.0			3.c.2
					GCP								3.d.
55.0	366.0	93.8	99-02	514.8	GCP	5		3.0		52.0			3.d.1
194.0	1,130.0	189.2	99-02	1,513.2	GCP	5		10.0		184.0			3.d.2
10,953.5													
4,000.0													
0.0													
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14,953.5													

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